CLAIM AMENDMENTS:

1-18 cancelled

19. (new) A radiation protection material for shielding X-rays and/or gamma rays made from a foil-like, multi-layer material in which radiation-absorbing particles are dispersed, the protection material comprising:

    at least one carrier layer; and
    a radiation absorbing layer, said radiation-absorbing layer comprising a hardenable polymer preparation which is flowable in a processing state and which has an effective lead content of ≤ 15%.

20. (new) The radiation protection material of claim 19, wherein said polymer preparation of said radiation absorbing layer comprises a PVC plastisol.

21. (new) The radiation protection material of claim 19, wherein said polymer preparation of said radiation absorbing layer comprises a liquid caoutchouc component.

22. (new) The radiation protection material of claim 21, further comprising a PVC plastisol mixed with said liquid caoutchouc component.

23. (new) The radiation protection material of claim 19, wherein said polymer preparation comprises at least one of softeners, cross-linking agents, and further additives.

24. (new) The radiation protection material of claim 19, wherein said polymer preparation contains between 20 and 40 weight% PVC and 10 to 35 weight% liquid caoutchouc, 0 to 10 weight% additional and auxiliary substances, the rest being softener.

25. (new) The radiation protection material of claim 24, wherein said polymer preparation contains 25 to 35 weight% PVC, 15 to 25 weight% liquid caoutchouc, 0 to 7 weight% additional substances and auxiliary means, the rest being softener.

26. (new) The radiation protection material of claim 25, wherein said polymer preparation contains 30 weight% PVC and 20 weight% liquid caoutchouc.

27. (new) The radiation protection material of claim 19, wherein said effective lead content is $\leq$ 10 weight%.

28. (new) The radiation protection material of claim 27, wherein said effective lead content is $\leq$ 5 weight%.

29. (new) The radiation protection material of claim 28, wherein said effective lead content is 0 weight%.

30. (new) The radiation protection material of claim 19, wherein a specific lead equivalent is $\geq$ 30 at a tube voltage in a tube voltage range between 60 and 125 kV in accordance with IEC 1331-1/EN 61331.

31. (new) The radiation protection material of claim 30, wherein a specific lead equivalent is $\geq$ 32.

32. (new) The radiation protection material of claim 31, wherein a specific lead equivalent is ≥ 34.

33. (new) The radiation protection material of claim 30, wherein said specific lead equivalent is ≥ 30 at at least two tube voltages having a difference of at least 20 kV in a tube voltage range between 60 and 125 kV in accordance with IEC 1331-1/EN 61331.

34. (new) The radiation protection material of claim 33, wherein said specific lead equivalent is one of ≥ 32 and ≥ 34, said tube voltages differing by one of 40 kV, 45 kV and 65 kV.

35. (new) The radiation protection material of claim 19, wherein said carrier layer comprises at least one of PVC plastisol material, polyurethane, and polyester.

36. (new) The radiation protection material of claim 19, wherein a portion of said polymer preparation of said radiation-absorbing layer is > 0 and ≤ 20 weight% and a content of radiation absorbing particles is ≥ 80 weight% and < 100 weight%.

37. (new) The radiation protection material of claim 36, wherein said portion of said polymer preparation is 10 to 20 weight% and said portion of radiation absorbing particles is 80 to 90 weight%.

38. (new) The radiation protection material of claim 19, wherein radiation absorbing particles contain tin, bismuth, barium and/or tungsten and/or oxides and salts of these metals and mixtures thereof.

39. (new) The radiation protection material of claim 19, wherein the multi-layer material has a thickness of 0.3 to 1.2 mm, 0.3 to 0.5 mm, or 0.35 to 0.45 mm.

40. (new) The radiation protection material of claim 19, wherein radiation absorbing particles are contained in the at least one carrier layer.

41. (new) The radiation protection material of claim 19, wherein said at least one carrier layer can be washed, is abrasion-resistant, and/or has textile properties on its side facing away from the radiation absorbing layer.

42. (new) The radiation absorbing material of claim 19, wherein said the carrier layer is integrally connected to said radiation absorbing layer.

43. (new) A method for producing a radiation protection material, the method comprising the steps of:

    a) providing a carrier layer;
    b) producing a material for a radiation absorbing layer from a pourable liquid polymer preparation by adding radiation absorbing particles;
    c) applying the material for the radiation-absorbing layer onto the carrier layer; and
    d) hardening the material of the radiation absorbing layer through thermal, chemical, and/or physical cross-linking.

44. (new) The method of claim 43, wherein step a) comprises the step of doctoring and drying on a substrate and step c)

comprises at least one of disposing, pouring, or doctoring the material of the radiation-absorbing layer onto the carrier layer.

45. (new) Use the radiation protection material of claim 19, as radiation protection clothing, as a radiation protection apron, or as a radiation protection loincloth.